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# Mental health care in Athens: Are compulsory admissions in Greece a one-way road?

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ABSTRACT

Involuntary hospitalization has long been a contentious issue worldwide. In Greece, the frequency of compulsory admissions is assumed to be alarmingly high; however, no study has systematically investigated this issue. In line with this, the present study aims to estimate the frequency of compulsory admissions in a psychiatric hospital and to explore its underpinnings. All individuals who were admitted to the Psychiatric Hospital of Attica during June–October 2011 were included into the study. Information about their socio-demographic and clinical characteristics as well as their previous contact with mental health services was obtained from interviewing the patient and his/her physician. Furthermore, information about the initiation of the process of compulsory admission as well as patient's referral upon discharge was retrieved from patients' administrative record. Out of the 946 admissions 57.4% were involuntary. A diagnosis of unipolar depression, high social support and previous contact with community mental health services were found to yield a protective effect against involuntary hospitalization. Moreover, 69.8% of civil detentions were instigated by close relatives and 30.2% ex officio. These two groups differed in patients' social support levels and in medication discontinuation being the reason for initiation of the process. Lastly, only 13.8% of patients were referred to community mental health services at discharge. Our findings suggest that civil detentions are deeply entrenched in clinical routine in Greece. Moreover, poor coordination among services and relatives' burden seem to contribute substantially to the elevated rates.



## 1. Introduction

Involuntary hospitalization has long been considered to be a contentious issue in psychiatry due to the restrictions it imposes on patients' rights and level of autonomy. Despite its pivotal position in psychiatric care internationally, comparative studies have concentrated more on its legal aspect rather than on its epidemiology (Salize & Dressing, 2004; Whitney, Ruiz, & Langenbach, 1994). Consistent with this, the European Commission has funded a multisite study exploring the pertinent legal frameworks and the frequency of compulsory admissions among member states (Salize, Dressing, & Peitz, 2002). The findings of the study showed that the rates of involuntary admissions vary substantially among countries, ranging from 6 per 100,000 population in Portugal to 218 per 100,000 population in Finland (Salize & Dressing, 2004). Likewise, another study has replicated this stark variation, ranging from 18.2 in Italy to 190.5 in Germany in 2001(Priebe et al., 2005).

Accounts for explaining existing diversity can be grouped into two different, albeit complementary, approaches: one stressing the importance of patient characteristics and another one underscoring organizational and ecological variables, such as aspects of the mental health care system. In accordance to the first strand of research; male gender, a diagnosis of psychosis and immigrant status have been found to constitute the main patient-related risk factors for involuntary hospitalization (Hansson et al., 1999; Lorant, Depuydt, Gillain, Guillet, & Dubois, 2007; Myklebust, Sørgaard, Røtvold, & Wynn, 2012; Riecher, Rössler, Löffler, & Fätkenheuer, 1991; van der Post et al., 2009; Vinkers, de Vries, van Baars, & Mulder, 2010; Webber & Huxley, 2004; Wierdsma & Mulder, 2009; Whitney et al., 1994); while other socio-demographic and clinical characteristics, such as marital status and illness duration, have yielded conflicting evidence (Craw & Compton, 2006; Salize & Dressing, 2004). Concerning the second line of enquiry, a series of studies conducted in the Netherlands has revealed a limited effect of

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mental health services integration, corroborating the importance of particular intervention modalities, such as intensive case management or assertive community treatment, in reducing the frequency of involuntary admissions (Wierdsma, 2007; Wierdsma & Mulder, 2009). Furthermore, this research group has substantiated a significant contribution of community care networks; such as welfare services and housing corporations, in lower levels of civil detentions (Wierdsma, Poodt, & Mulder, 2007). Additionally, the overall quality and adequacy of mental health services have been shown to bear a strong association with compulsory admissions both in Scandinavian countries (Hansson et al., 1999) and in the UK (Bindman, Tighe, Thornicroft, & Leese, 2002); while a report from the Amsterdam Study of Acute Psychiatry suggests that patients who had received more intensive outpatient treatment in the year before the assessment were less likely to have an emergency involuntary hospitalization (van der Post et al., 2009). Apart from mental health services configuration, area deprivation and social exclusion have been found to increase the likelihood of detention (Bindman et al., 2002; Webber & Huxley, 2004).

In Greece, converging evidence renders compulsory admissions of outmost concern, especially in light of the incomplete psychiatric reform in the country (Pallis, Apostolou, Economou, & Stefanis, 2007; Ploumpidis, 2015). In particular, prior to the implementation of the most recent legislation (Law 2071/1992), 97% of all admissions were found to be involuntary (Bilanakis, 2004). However, even after the new legislation was introduced, minor changes were documented (Pehlivanidis, Politis, Economou, & Trikkas, 2001); lending credence to the claim that compulsory admissions have been deeply entrenched in routine clinical practice. Since then, no study has been conducted to record the frequency of involuntary hospitalizations, either in the form of rates (number per population) or quotas (percentage out of all hospitalizations). This research gap is unfortunate, especially in light of the condemnation of the country by the European Court of Human Rights (Karamanof v. Greece, 2011; Venios v. Greece, 2011) as well as evidence indicating substantial infringement of the pertinent legal framework for civil detentions (Douzenis et al., 2010; The Greek Ombudsman, 2007). At the same time, if indeed ecological and organizational factors play a prominent role in driving increases in the frequency of compulsory admissions, Greece is anticipated to display elevated rates on the grounds of the incomplete deinstitutionalization process. In particular, the evaluation of the psychiatric reform in Greece has shown that there is a shortage of community mental health services and that the mental health care system remains fragmented, uncoordinated and unstable; while patients and carers have limited access to a full range of interventions and receive little information about existing services and their use (Chondros, 2015; Loukidou et al., 2013; Stylianidis, Chondros, & Lavdas, 2014). This latter finding may have important implications for the frequency of involuntary hospitalizations in the country, as the process of civil commitment is mobilized either by a close relative or ex officio. If relatives are oblivious to existing services and interventions they may overuse inpatient care or instigate the process of involuntary hospitalization without having exhausted other alternatives.

In this context and in the absence of national statistical data on involuntary hospitalizations in the country, the Association for Regional Development and Mental Health (EPAPSY) in collaboration with Panteion University and the Psychiatric Hospital of Attica "Dafni" launched a large research programme (acronym MANA) with the aim of investigating compulsory admissions in the Athens area. This particular programme entails various sub-studies exploring different facets of the issue (e.g. the 2-year outcome of involuntary hospitalization, patients' views on the compulsory status of their admission, mental health professionals' attitudes to mental illness and civil detention, the use of mechanical restraint, etc.) so as to accumulate sufficient evidence in order to place compulsory admissions as a top priority topic in public mental health policy agenda in the country. In this first research paper of the programme, the frequency and process of compulsory admission in the main psychiatric hospital of Attica, "Dafni" were investigated. Congruent with this, the following objectives were incorporated:

(i) To estimate the frequency of involuntary hospitalizations in the form of quotas (i.e. number of involuntary hospitalizations out of the total number of hospitalizations).
(ii) To explore differences between compulsory admissions instigated by family members and those instigated ex officio in an attempt to shed light on relatives' involvement in the process.
(iii) To identify risk and protective factors for involuntary hospitalization so as to investigate the relative importance of patient and ecological variables
(iv) To explore differences in referral types after discharge in order to verify the claim of the ex post evaluation (Loukidou et al., 2013) about poor continuity of care.

## 2. Materials and methods

### 2.1. Sample and setting

Data collection occurred at the Psychiatric Hospital of Attica, "Dafni". The Psychiatric Hospital of Attica is the largest hospital in Greece, consisting of 325 psychiatric beds (Psychiatric Hospital of Attica, 2015). It admits patients from the greater Athens region as well as from areas outside Athens. Consistent with this, its services are not sectorized (Psarra et al., 2008).

All individuals who were admitted to the Psychiatric Hospital of Attica "Dafni", during the time period June–October 2011 were included in the study. Admissions to the hospital occur twice a week, when patients are distributed randomly to the 8 hospital wards, after an assessment at the Emergency department of the hospital is completed. During the other days of the week, other hospitals in Athens area are on duty for admitting patients.

Regarding involuntary admissions, the decision to commit a patient in Greece is regulated by Law 2071/1992, legislation that concurs with European standards. It encompasses two different routes, the regular and the emergency one; however, the latter is customarily followed. It is noteworthy that their difference lies on the sequence of events rather than on their content. More specifically, spouses and first degree relatives (i.e. parents/children/grandparents) up to second-degree relatives (siblings, cousins, etc.) or whoever has custody or is the judicial supporter – i.e. a relative or a mental health professional who is responsible for managing a patient's financial and legal affairs due to his/her mental or physical incapacity to do so by himself/herself – of the patient can request from the public prosecutor a psychiatric assessment of the patient on the grounds of his presenting symptoms and their implications — i.e. posing a danger to oneself or others and the imperative need of treatment. In his/her turn the public prosecutor issues a warrant, according to which the police should escort the patient to the nearest state mental health unit that is on duty that day. Within 48 h, two qualified psychiatrists should independently assess and justify the degree to which the prerequisites for compulsory admission are fulfilled; namely, that the patient (i) is suffering from mental illness, (ii) because of his/her present state, he/she is incapable of deciding on his/her best interests and (iii) if left untreated, the patient's health will be gravely exacerbated or he/she will pose a danger to himself/herself or others. Psychiatrists' clinical observations from the assessment should then be returned to the public persecutor, who will decide on patient's involuntary placement.

In the absence of the aforementioned persons, the procedure can be instigated "ex officio", with the public prosecutor compiling a request and ordering the police force to escort the patient for an assessment. This usually takes place after formal complaints are filed at the local police station by members of the general public (e.g. neighbours).

Concerning voluntary admissions, patients resort to the emergency department of the hospital, where a psychiatric assessment is

conducted. If the psychiatrist considers that the patient should be hospitalized, then he/she is allocated in rotation to the 8 wards of the hospital.

Congruent with these, the inclusion criteria of participants in the present sample were similar to those of admission to the hospital. In particular, to be admitted to the hospital, patients should have been older than 18 years old and their present mental state should justify the need for either voluntary or involuntary admission. Patients cannot be hospitalized for substance/alcohol dependence, as specialized services are available for treating people who suffer from disorders in the addiction spectrum. Nonetheless, patients with a dual diagnosis are usually admitted to the hospital. Similarly, patients with dementia are not hospitalized, unless they manifest psychotic symptoms or/and suicidality.

### 2.2. Instrument

For collecting the required information, a form was constructed for the purposes of the study. The following subsections were entailed:

*Demographic characteristics:* gender, nationality (Greek vs. immigrant), age, family status, educational attainment and employment status

*Clinical characteristics:* diagnosis, the presence of personality disorder (binary variable: yes–no), the presence of substance/alcohol abuse (binary variable: yes–no), the presence of mental retardation (binary variable: yes–no) and illness duration.

Diagnoses were formulated by the psychiatrist who was responsible for the treatment of the patient throughout his/her hospitalization and they were made in accordance with the ICD-10 Classification of Mental and Behavioural Disorders. The particular classification system has been adopted in the Psychiatric Hospital of Attica "Dafni" in an attempt to achieve homogeneity in the formulation of clinical diagnosis among the clinics as well as in order to provide comparable data with those emanating from other mental health services in Greece.

*Contact with services:* participants' previous number of hospitalizations was recorded as well as the type of care the patient received prior to admission (hospitalization, community services, outpatient clinics, psychiatrist in private practice).

*Initiation of compulsory admission:* Person who instigated the process (family member or ex officio) and reason for doing so were also recorded.

Participants' degree of perceived social support was measured by employing the Oslo Social Support Scale (Dalgard, 1996), a three-item self reported scale, with good psychometric properties and widespread use in several European studies (Abiola, Udofia, & Zakari, 2013; Korkeila et al., 2003; Lanfredi et al., 2015; Meltzer, 2005). A composite score can be computed, (value range 3–14), with higher figures indicating greater social support. The internal consistency of the scale was deemed adequate in the study (Cronbach a = 0.69).

Information was gleaned from the following sources: interviewing the patient one week after his/her admission, interview with the psychiatrist who was responsible for the patient's treatment and patient's clinical and administrative record.

### 2.3. Procedure

The research proposal of the study was formally approved by: the Hospital Board, the Ethics Committee of the Hospital (in line with the Declaration of Helsinki) and the Ministry of Health. Twenty undergraduate psychology students from Panteion University were then selected and trained to undertake the field work of the study. Their training consisted of basic knowledge on psychopathology and research methods as well as interviewing skills. Throughout the study period, students received weekly supervision from two members of the research team.

Students visited the Psychiatric Hospital of Attica three times a week and were informed about all new admissions. Each student was assigned a number of patients and was responsible for collecting all the pertinent information. Information was collected through interviewing the patients, the mental health staff, the clinical record of the patient as well as his/her administrative file. Students started completing the instrument from the clinical and administrative record, while roughly a week after patient admission (between 1 and 2 weeks after admissions), they interviewed the psychiatrist with respect to clinical details. After the psychiatrist gave his/her permission to interview the patient, students – in pairs – approached each patient and informed him/her about the study. Once they acquired his/her informed consent for participation, the interview was initiated. The interviews lasted for 10–15 min and were conducted in a designated office on the wards. It is noteworthy that no hospital staff was present throughout the interview.

The research instrument and procedure were pilot tested one month prior to the commencement of the study. The pilot phase helped the students to standardize data collection and develop a consensus with the researchers on what is feasible to include and what not. Data from the pilot phase were not included in the findings presented here.

### 2.4. Statistical analysis

For descriptive statistics, frequencies were computed for nominal and ordinal variables; median and range for discrete numeric variables; and mean and standard deviations for continuous variables.

For univariate analyses between the legal status of admission (voluntary–involuntary) and categorical/ordinal variables, chi square analysis was performed, with the Yates correction for $2 \times 2$ tables. For univariate analyses between the legal status of admission and discrete numeric variables, the Mann–Whitney test was used; whereas for interactions between the legal status of admission and continuous variables t-test for independent samples was performed.

Variables that exerted a statistically significant effect on the legal status of admission, were entered simultaneously as predictor variables in a multiple logistic regression model with legal status of admission as the outcome variable. Crude odds ratio and adjusted odds ratio are presented along with the germane confidence intervals.

Statistical significance was set at $p < 0.05$ and analyses were conducted using SPSS statistical software (version 19.0).

It merits noting that for research objective 1, the unit of analysis was the hospitalization; whereas for research objectives 2, 3 and 4, the unit of the analysis was the patient in order not to bias results towards the (socio-demographic and clinical) profile of revolving-door patients.

## 3. Results

### 3.1. Quotas of compulsory admissions

A total of 946 admissions were recorded during the study period. Among these admissions, 543 of them were compulsory (57.4%, 95% Confidence Interval = 54.2%–60.6%) and 403 were voluntary (42.6%, 95% Confidence Interval = 39.4%–45.8%).

When the patient was the unit of analysis rather than the hospitalization, it was found that 822 patients were admitted during the study period. Among them, data were missing or incomplete for 107 of them (13%). Reasons for exclusion include patients' refusal to participate or inability to complete the interview due to mental state. Therefore, data from 715 patients were analysed. Among them, 427 (59.7%) were involuntarily hospitalized patients and 288 (40.3%) were voluntarily hospitalized patients.

### 3.2. Sample characteristics

The socio-demographic and clinical profile of these 715 patients is presented in Tables 1 and 2.

### 3.3. Risk factors

The variables that were found to bear a statistically significant association with legal status of admissions were entered into a multivariate logistic regression model in an endeavour to explore their independent effects. With regard to the independent effects on involuntary hospitalization, most of the variables ceased to exert a statistically significant influence in the multivariate model (Table 3). Nonetheless, the analysis highlighted three factors protective of involuntary admission. Patients with a diagnosis of unipolar depression displayed decreased odds of being admitted involuntarily. In fact, the odds of being detained were 9 times smaller than the corresponding odds for people with a diagnosis of psychotic spectrum disorders. Similarly, patients who were in contact with community mental health services prior to admission were 6 times less likely to undergo civil commitment than patients whose previous contact with mental health providers was through a previous hospitalization. It merits noting that contact with outpatient services as well as with psychiatrists in private practice was equally likely to result in compulsory admission as previous hospitalization. Lastly, for every unit increase in the Oslo Social Support Scale decreased odds of involuntary hospitalization were documented.

### 3.4. Process initiation

Concerning the initiation of compulsory admission, for 298 out of the 427 involuntary hospitalized patients (69.8%), the process was initiated by close relatives; whereas for the remaining 129 (30.2%) the process was instigated ex officio. Among the reasons for initiating it was a patient's aggressiveness (55%), discontinuation of medication (34.2% of the sample), positive symptoms (27.2% of the sample), disorganized behaviour (20.4%), self-harm (19%), negative symptoms (13.8%) or other reason (7.7%). It is noteworthy that categories are not mutually exclusive, as for the majority of patients, there were more than one reasons for instigating the process of compulsory admission. As one can discern in Table 4, no statistically significant differences emerged between detentions instigated by relatives and those instigated ex officio with regard to the reasons for triggering the process with the exception of discontinuation of medication ($p < 0.01$). Specifically, 41.9% of compulsorily admitted patients whose admission was requested by relatives was on the grounds of medication discontinuation, as opposed to 16.3% of compulsorily admitted patients whose admission was triggered ex officio.

Furthermore, when these two groups are compared in terms of patients' clinical and socio-demographic characteristics, the only variable that was found to bear a statistically significant association was the degree of social support. In particular, patients whose compulsory admission was initiated by relatives had a higher degree of social support (mean = 8.61, SD = 3.7) than patients whose involuntary hospitalization was initiated ex officio (mean = 6.59, SD = 3.4, $p < 0.05$). Furthermore, statistically significant differences were observed with regard to instigating the process for treatment adherence reasons.

### 3.5. Referral types

Regarding referral to other services after discharge, roughly one in two patients is formally referred to the outpatient services of the hospital (51.2%). Moreover, 13.8% of patients are formally referred to community mental health services (rehabilitation services, community mental health services, specialized services for the treatment of people with drug addiction or dementia, etc.), while 2.8% to other services (e.g.

**Table 1**
Socio-demographic characteristics for the sample, the voluntary hospitalization group and the involuntary hospitalization group.

| Variable | Sample | Voluntary hospitalization group | Involuntary hospitalization group |
|---|---|---|---|
| | N = 715 | N = 288 | N = 427 |
| Gender | | | |
| Male | 415 (58%) | 153 (53.1%) | 262 (61.4%) |
| Female | 300(42%) | 135 (46.9%) | 165 (38.6%) |
| Nationality | | | |
| Greek | 637 (89.1%) | 268 (93.1%) | 369 (86.4%) |
| Immigrant status | 78 (10.9%) | 20 (6.9%) | 58 (13.6%) |
| Place or residence | | | |
| Athens | 561 (78.5%) | 228 (79.2%) | 333 (78%) |
| Outside Athens | 154 (21.5%) | 60 (20.8%) | 94 (22%) |
| Age[a] | 45.68 (SD = 13.62) | 47.42 (SD = 12.87) | 44.6 (SD = 14.01) |
| Family status | | | |
| Single | 425 (59.4%) | 143 (49.7%) | 282 (66%) |
| Married–cohabiting | 162 (22.7%) | 82 (28.5%) | 80 (18.7%) |
| Divorced | 89 (12.4%) | 45 (15.6%) | 44 (10.3%) |
| Widowed | 39 (5.5%) | 18 (6.3%) | 21 (4.9%) |
| Educational attainment | | | |
| Less than 12 years | 374 (52.3%) | 157 (54.5%) | 217 (50.8%) |
| 12 years | 227 (31.7%) | 89 (30.9%) | 138 (32.3%) |
| More than 12 years | 114 (15.9%) | 42 (14.6%) | 72 (16.9%) |
| Employment status | | | |
| Employed | 125 (17.5%) | 50 (17.4%) | 75 (17.6%) |
| Unemployed | 519 (72.6%) | 200 (69.4%) | 319 (74.7%) |
| Economically inactive | 71 (9.9%) | 38 (13.2%) | 33 (7.7%) |
| Oslo Social Support Scale[a] | 7.68 (2.46) | 8.04 (2.43) | 7.44 (2.44) |

[a] Descriptive statistics are mean values and standard deviations in the parenthesis.

**Table 2**
Clinical and organizational characteristics for the sample, the voluntary hospitalization group and the involuntary hospitalization group.

| Variable | Sample | Voluntary hospitalization group | Involuntary hospitalization group |
|---|---|---|---|
| | N = 715 | N = 288 | N = 427 |
| Comorbidity with mental disorders | | | |
| Presence | 98 (13.7%) | 37 (12.8%) | 61 (14.3%) |
| Absence | 617 (86.3%) | 251 (87.2%) | 366 (85.7%) |
| Diagnosis | | | |
| Psychosis spectrum | 474 (66.3%) | 141 (49%) | 333 (78%) |
| Bipolar disorder | 111 (15.5%) | 51 (7.1%) | 60 (14.1%) |
| Unipolar depression | 96 (13.4%) | 80 (27.8%) | 16 (3.7%) |
| Organic mental disorders | 23 (3.2%) | 11 (3.8%) | 12 (2.8%) |
| Other (autism, eating disorders, etc.) | 11 (1.5%) | 5 (1.7%) | 6 (1.4%) |
| Personality disorder | | | |
| Presence | 30 (4.2%) | 12 (4.2%) | 18 (4.2%) |
| Absence | 685 (95.8%) | 276 (95.8%) | 409 (95.8%) |
| Mental retardation | | | |
| Presence | 20 (2.8%) | 9 (3.1%) | 11 (2.6%) |
| Absence | 695 (97.2%) | 279 (96.9%) | 416 (97.4%) |
| Substance/alcohol misuse | | | |
| Presence | 60 (8.4%) | 21 (7.3%) | 39 (9.1%) |
| Absence | 655 (91.6%) | 267 (92.7%) | 388 (90.9%) |
| Illness duration (in years)[a] | 13.79 (SD = 11.42) | 13.5 (SD = 11.3) | 14.01 (SD = 11.52) |
| Number of previous hospitalizations[b] | 3 (1–25) | 3 (1–24) | 2 (1–25) |
| First hospitalization | | | |
| Yes | 174 (24.3%) | 59 (20.5%) | 115 (26.9%) |
| No | 541 (75.7%) | 229 (79.5%) | 312 (73.1%) |
| Previous contact with mental health providers | | | |
| Hospitalization | 503 (70.3%) | 165 (57.3%) | 338 (79.2%) |
| Community mental health services | 29 (4.1%) | 25 (8.7%) | 4 (0.9%) |
| Outpatient clinic | 46 (6.4%) | 35 (12.2%) | 9 (2.1%) |
| Psychiatrist in private practice | 137 (19.2%) | 61 (21.2%) | 76 (17.8%) |

[a] Descriptive statistics are presented as mean values and standard deviations.
[b] Descriptive statistics are presented as medians and ranges.

**Table 3**
Unadjusted and adjusted[a] odds ratio (OR) and 95% confidence intervals (95% CI) of compulsory hospitalization.

| Variable | Crude OR (95% CI) | p-Value | Adjusted OR (95% CI) | p-Value |
|---|---|---|---|---|
| Gender | | | | |
| Male | 1.00 | – | 1.00 | – |
| Female | 0.71 (0.53–0.97) | 0.029* | 1.08 (0.57–2.06) | 0.805NS |
| Nationality | | | | |
| Greek | 1.00 | – | 1.00 | – |
| Immigrant | 2.04 (1.16–3.58) | 0.013* | 0.85 (0.26–2.84) | 0.795 NS |
| Age | 0.99 (0.97–0.99) | 0.008** | 0.98 (0.95–1.01) | 0.979 NS |
| Family status | | | | |
| Never married | 1.00 | – | 1.00 | – |
| Married | 0.49 (0.33–0.73) | 0.000** | 0.72 (.032–1.63) | 0.434 NS |
| Divorced/separated | 0.5 (0.31–0.82) | 0.006** | 0.46 (0.19–1.12) | 0.087 NS |
| Widowed | 0.62 (0.31–1.26) | 0.188 NS | 0.48 (0.07–3.29) | 0.452 NS |
| Oslo Social Support Scale | 0.9 (0.84–0.97) | 0.005** | 0.84 (0.73–0.96) | 0.014* |
| Diagnosis | | | | |
| Psychosis spectrum | 1.00 | – | 1.00 | – |
| Bipolar disorder | 0.51 (0.33–0.78) | 0.002** | 0.64 (0.31–1.35) | 0.244 NS |
| Unipolar depression | 0.09 (0.05–0.15) | 0.000** | 0.11 (0.03–0.37) | 0.000** |
| Organic mental disorders | 0.46 (0.2–1.07) | 0.072 NS | 0.41 (0.03–5.12) | 0.489 NS |
| Other (anxiety disorders, eating disorders, etc.) | 0.51 (0.15–1.69) | 0.270 NS | 0.42 (0.05–3.34) | 0.413 NS |
| Previous contact with mental health providers | | | | |
| Hospitalization | 1.00 | – | 1.00 | – |
| Community mental health services | 0.24 (0.07–0.8) | 0.019* | 0.16 (0.03–0.78) | 0.024* |
| Outpatient clinic | 0.42 (0.17–1.02) | 0.055 NS | 0.43 (0.13–1.45) | 0.174 NS |
| Psychiatrist in private practice | 0.69 (0.39–1.2) | 0.185 NS | 1.02 (0.46–2.25) | 0.971 NS |

[a] Multivariate logistic regression, adjusting for the other factors shown in the table.
* Statistical finding at $p < 0.05$ level.
** Statistical finding at $p < 0.01$ level.

went back to prison). Finally, 32.2% of participants are not formally referred to any services or health providers. In other words, they received their discharge note without instructions for follow-up care. The vast majority of them were found to reside outside Athens.

No statistically significant differences were found between involuntarily hospitalized and voluntarily hospitalized patients in this regard: $x^2$ (3) = 4.24, $p > 0.05$.

## 4. Discussion

The results of the present study indicate that roughly 60% of those hospitalized in the Psychiatric Hospital of Attica are admitted involuntarily. This is a particularly alarming figure, given the dire restrictions on patients' human rights inherent in involuntary hospitalization. Concomitantly, an indirect comparison with estimates recorded in other European Union member states shows that the quota documented in the present study is twice as high as the corresponding one in Sweden (30%), the country with the highest frequency of compulsory admissions in the pertinent multisite report (Salize et al., 2002). It is therefore clear that the quota of involuntary hospitalizations in Greece is particularly high, even when compared to other European countries. It merits noting that while the figures presented here are not national data; nevertheless, due to the pivotal position of the Psychiatric Hospital of Attica in the Greek mental health care system (Psychiatric Hospital of Attica, 2015), these data are indicative of the process and underpinnings of compulsory admissions in Greece and thus, they are of high relevance on a national level as well. Congruent with this, policies and tailored interventions for curbing the pertinent figures should be prioritized in the mental health agenda in the country.

**Table 4**
Reasons for instigating the process of compulsory admission for the total sample, for admissions instigated by relatives and for those instigated ex officio.

| Reason for instigating the process | Total (N = 427) | Relatives (N = 298) | Ex officio (N = 129) |
|---|---|---|---|
| Aggressiveness | 235 (55%) | 158 (53%) | 77 (59.7%) |
| Discontinuation of medication* | 146 (34.2%) | 125 (41.9%) | 21 (16.3%) |
| Positive symptoms | 116 (27.2%) | 82 (27.5%) | 34 (36.4%) |
| Disorganized behaviour | 87 (20.4%) | 60 (20.1%) | 27 (20.9%) |
| Self-harm | 81 (19%) | 58 (19.5%) | 23 (17.8%) |
| Negative symptoms | 59 (13.8%) | 59 (13.8%) | 19 (14.7%) |
| Other | 33 (7.7%) | 33 (7.7%) | 12 (9.3%) |

* Statistically significant finding at $p < 0.01$ level.

Investigating the risk factors associated with these high figures is one way forward for informing the required policies and interventions. In line with this and taking into consideration patient characteristics, the present study revealed statistically significant effects only for diagnosis and the social support variable. In sharp contrast to existing literature (Hansson et al., 1999; Lorant et al., 2007; Myklebust et al., 2012; Riecher et al., 1991; Webber & Huxley, 2004; Whitney et al., 1994; Wierdsma & Mulder, 2009; van der Post et al., 2009; Vinkers et al., 2010), male gender and immigrant status did not exert an independent influence on compulsory admissions, perhaps due to their effect being mediated by other variables of the model, most likely by perceived social support and type of previous contact with mental health providers. This hypothesis is in line with international evidence suggesting that men and people of immigrant status have lower levels of social support (Kendler, Myers, & Prescott, 2005; Salinero-Fort et al., 2011); while they seldom use mental health services due to lower receptivity to help as well as due to accessibility barriers(Abe-Kim et al., 2007; Drapeau, Boyer, & Lesage, 2009).

The diagnosis of unipolar depression was found to exert a protective effect against compulsory admission; whereas patients with psychotic spectrum disorders, organic mental disorders and bipolar disorder displayed similar odds of being involuntarily hospitalized. On this basis, compulsory admission seems to reflect the Greek system's incapacity to deal with serious and enduring mental illnesses, rendering civil detentions as the only way forward. Alternatively, the particular finding may be explained in terms of poor insight in these diagnostic groups during an acute phase, which in turn is addressed by involuntary hospitalization (McEvoy, Applebaum, Apperson, Geller, & Freter, 1989; Weiler, Fleisher, & McArthur-Campbell, 2000).

With respect to the role of social support in civil commitments, the present study found that higher levels of perceived social support are

independently linked to lower probability of compulsory admission. This finding is consonant with a study from the UK showing that low social support was the only social exclusion indicator raising likelihood of emergency involuntary hospitalization (Webber & Huxley, 2004). Nonetheless, the exact ways whereby social support and social networks protect against compulsory admission are still nebulous. Evidence emanating from the Amsterdam Study of Acute Psychiatry revealed that living alone was the only social support variable exerting an independent effect on emergency involuntary hospitalizations, with patients in this living arrangement also reporting smaller social networks (van der Post et al., 2012). Further research is warranted prior to drawing any conclusions about the particular association.

Concerning system characteristics, the present study provides evidence for what appears to be a vicious circle in the mental health care system in Greece. Prior contact with community mental health services was found to substantially reduce the risk of being admitted compulsorily; however, only one out of ten patients was formally referred to community mental health services upon discharge. The vast majority of patients were found to be referred to the outpatient department of the hospital for follow-up assessment and treatment; however, outpatient treatment was not found to be substantially different from hospitalization with regard to likelihood of compulsory detention in the study's multivariate model. At the same time, the low number of admitted patients who had previously contacted community mental health services and that of hospital referrals to community mental health services upon discharge indicate a gap in communication as well as in continuity of care between hospital-based and community-based services in Greece. These findings echo points raised during the ex post evaluation of the implementation of the psychiatric reform in the country, stressing the fragmented and uncoordinated nature of the system (Chondros, 2015; Loukidou et al., 2013; Stylianidis et al., 2014).

In addition, the pattern of results that emerged with respect to the initiation of the process of detention indicates most of compulsory admissions are triggered by patients' close relatives, as a result of the difficulties they face with illness management. Upon comparing the cases instigated by the relatives and those initiated ex officio, it is clear that in both categories, patients share a similar socio-demographic and clinical profile. Nonetheless, the substantial differences observed in terms of social support and in instigating the process on the grounds of medication discontinuation, show that relatives often resort to involuntary hospitalization as a token of concern over their relative and due to their incapability to cope with his or her illness. This finding may indeed reflect relatives' limited knowledge and skills on illness management as well as their unawareness of available services and interventions in the country (Chondros, 2015; Loukidou et al., 2013; Stylianidis et al., 2014). In this rationale, family psychoeducational interventions may facilitate reduction in compulsory admissions in Greece.

Apart from patient diagnosis, his or her degree of social support, the lack of coordination among mental health services and relatives' burden and limited knowledge on illness management and access to services, other factors may also explain the high rates of involuntary hospitalizations in Greece. Moderate implementation of the pertinent legislation, poor training of mental health professionals on negotiating treatment with patients, shortage of mental health personnel in hospitals, scarcity of more intensive treatment service formats, public and professional endorsement of the dangerousness stereotype for people with severe mental illness and an omnipresent paternalism in the conceptualisation and treatment of mental disorders in Greece (Ploumpidis, Garanis-Papadatos, & Economou, 2008) may all contribute more or less to the figures observed. Their role in influencing the practice and epidemiology of involuntary hospitalizations in Greece is investigated in ensuing studies, conducted in the context of the MANA Research Programme.

The present study was not without its limitations. Patients' diagnosis was not confirmed by members of the research team; however, in routine clinical practice of the Psychiatric Hospital of Attica the International Classification of Diseases-10 (ICD-10) system is employed. Severity of symptoms was not assessed, while information on certain variables was gleaned retrospectively (e.g. social support). Furthermore, these findings emanate from the largest – in terms of capacity – psychiatric hospital in Greece and thus extrapolation to other hospitals in Athens area or across the country should be made with caution. Moreover, the cross-sectional nature of the design does not allow the establishment of causal relationships between the variables.

Finally, it merits noting that we could not have computed the rates of compulsory admissions per 100,000 population. As also evidenced by the data, admissions at the Psychiatric Hospital of Attica are not sectorized and thus patients from different regions of Greece are detained there. As a result of this, the base population is unclear. Concomitantly, the Psychiatric Hospital Dromokaitio and the psychiatric departments of general hospitals in Athens also admit patients from the same areas and thus the calculation of rates would have necessitated data collection from these sites as well.

## 5. Conclusions

In spite of its shortfalls, this is the first study in Greece that has systematically investigated the process of compulsory admissions as well as its contributing and ameliorating factors. Current results indicate that compulsory admissions are deeply ingrained in routine clinical practice in Athens with an array of different factors – some known and many unknown – explaining this observation. This study points out that compulsory admissions remain a crucial ethical, political, clinical, therapeutic, legal and cultural challenge, especially amid the current period of socio-economic crisis, and in light of the uncompleted process of psychiatric reform in the country. Nonetheless, to better shed light on compulsory admissions and their underpinnings in Greece, a further study should aim to compute the rates of compulsory admissions per 100,000 population.

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